



UNITED STATES ARMY MANEUVER SUPPORT CENTER

A Perspective of Future Micro Unmanned Aerial Vehicles For the U.S. Army

By

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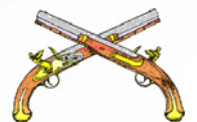
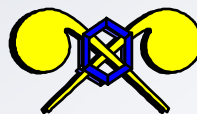
ENGINEER

CHEMICAL

MIL POLICE



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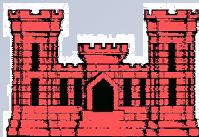


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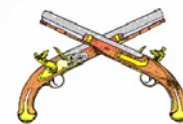
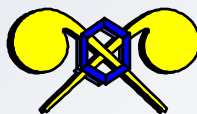


CURRENT ARMY EFFORTS

- There is a draft requirement for a Small Unmanned Aerial Vehicle (SUAV)
- We can forecast missions and operational requirements
- Advancements in Science and Technology will drive MAVs needs/requirements for Future Force with funding.
 - Current MAV effort for Army is a 9 inch (23cm) MAV
 - No formal approved Army requirement for 2-15 cm MAV
 - Today not included in the Future Combat Systems strategy
 - No Army funding in near future



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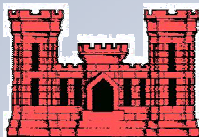




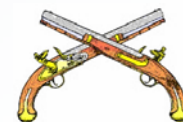
OPERATIONAL PURPOSE

- Primary purpose is to mitigate risk
- Increase operational tempo (speed)
- Enhanced situational awareness
- Increased force protection
- To provide real time direct imagery beyond line-of-sight

Permit dismounted forces (foot soldiers) the ability to move to points of positional advantage with greater speed and precision, and avoiding enemy strengths



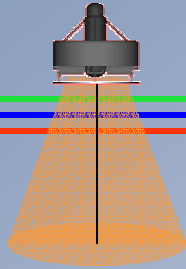
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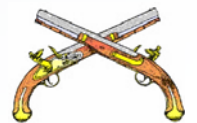


MISSIONS

- Reconnaissance
- Surveillance
- Target acquisition
- Battlefield damage assessment
- Unit patrols
- Force Protection



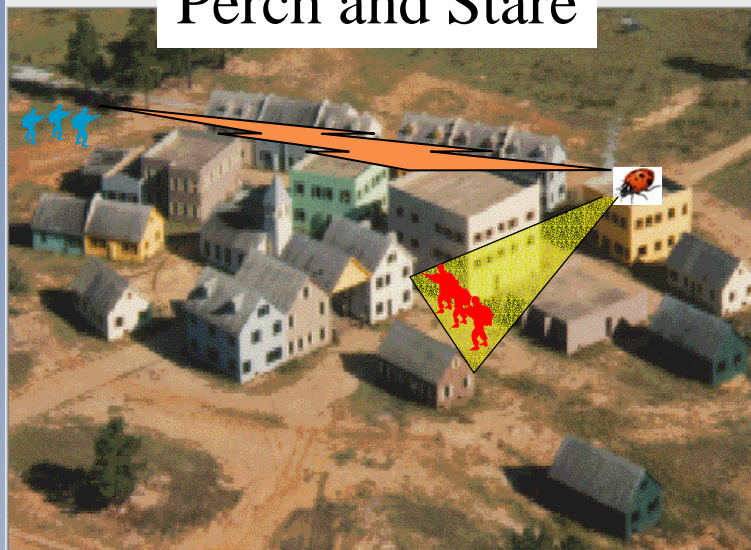
Around the corner, down the street, in the buildings, on buildings, sub terrain, over the hill, in the woods, in caves, down wells ...



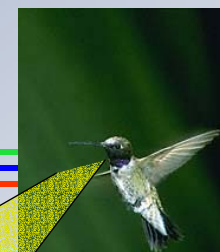
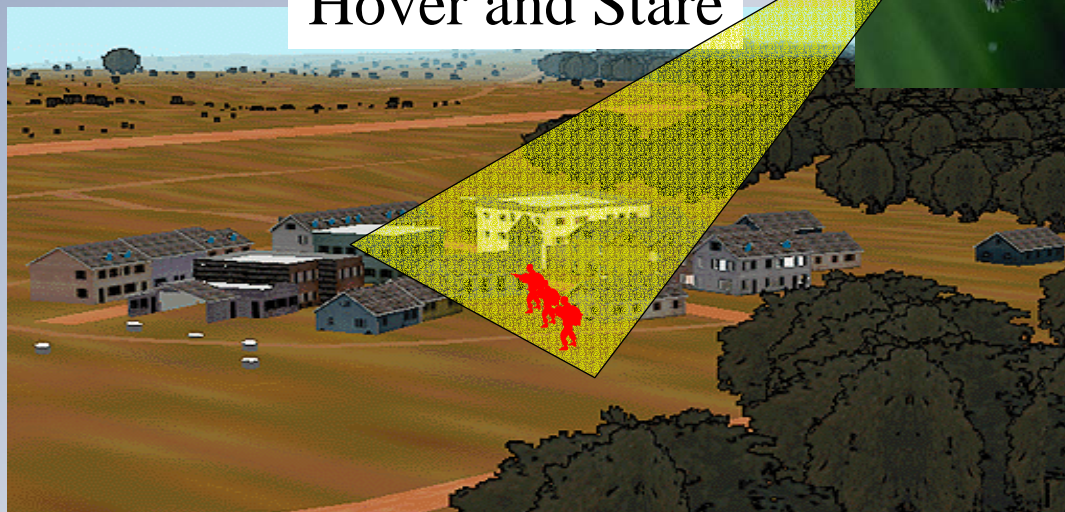


OPERATIONAL MODES

Perch and Stare



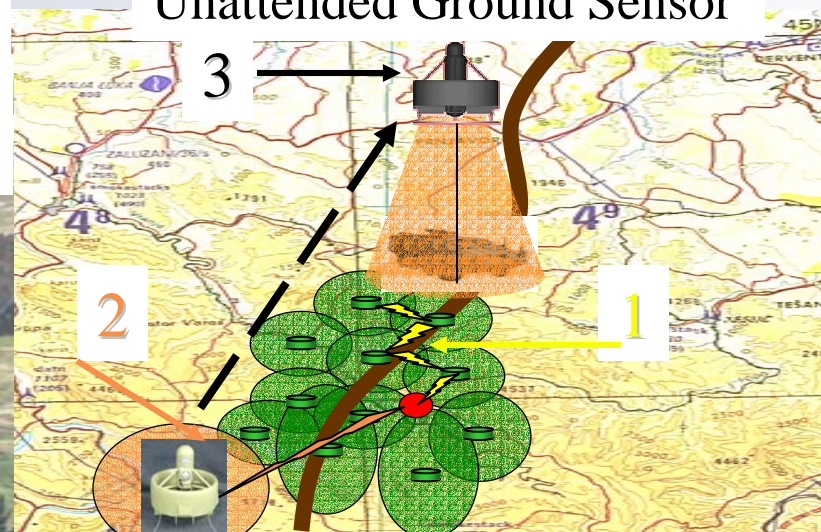
Hover and Stare



In-flight tasking for surveillance/reconnaissance



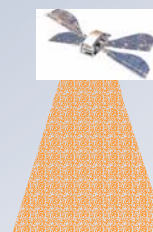
Unattended Ground Sensor



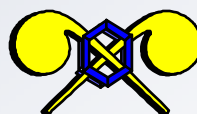


OPERATIONAL REQUIREMENTS

- Soldier operated (no dedicated operator, ease of operations)
- Man-packable air vehicle system
- Re-taskable and reusable system
- Launch and recover in confined spaces
- Provide line-of-sight/non-line-of-sight
- Power: fuel or battery?
- Extremely quiet
- Range 5 to 8 km
- Endurance 50 minutes time on target and 70 minutes flight time
- Low cost



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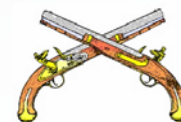
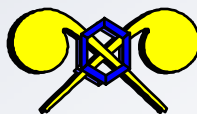
MILITARY USERS

DISMOUNTED SOLDIERS

- Scouts
- Infantry
- Special Operations
- Engineers
- Chemical
- Military Police



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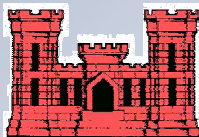


SENSOR PAYLOADS

**From a
MANSCEN
perspective**

- Electro Optical/Infrared (EO/IR) imagery
 - Real time direct receipt of imagery
 - Day/night imagery
- Chemical/Biological detector payload
- Zoom features

**Addressed in details by Mr. Mann
of
Night Vision and Electronic Sensors Directorate**



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